Claims

MAI

[c1]

1.An electronic trip unit for a circuit breaker comprising:

a microprocessor, said microprocessor programmed to determine an

overcurrent condition of said circuit breaker;

a nonvolatile memory in operable communication with said microprocessor;

a rating plug releasably engaged with said microprocessor, said rating plug

includes an identification register;

wherein said microprocessor reads said identification register, said

identification register including an identification number;

wherein said microprocessor accesses one of a plurality of programs in said

nonvolatile memory based on said identification number; and

wherein said one of a plurality of programs instructs said microprocessor to

perform a validation of said rating plug for operation with said microprocessor.

[c2]

101

2. The electronic trip unit of claim 1 wherein said validation includes an error

detection program processable by said microprocessor for rejecting

inappropriate rating plugs used with a selected circuit breaker frame and

electronic trip unit.

[c3]

3. The electronic trip unit of claim 1 wherein said microprocessor performs said

validation when said microprocessor is powered up.

[c4]

4. The electronic trip unit of claim 1 wherein said rating plug includes a display,

said display is indicative of said validation.

[c5]

5. The electronic trip unit of claim 1 wherein said validation causes said

microprocessor/to generate a signal indicative of an improper rating plug and

electronic trip unit combination.

[c6]

6. The electronic trip unit of claim 5 wherein said signal causes the circuit

breaker to trip.

[c7]

7. The electronic trip unit of claim 5 wherein said signal causes the

microprocessor to trip at a first setting, said first setting includes a low current

flow setting.

[c8]

8. The electronic trip unit of claim 5 wherein said signal is indicated on a display indicative of an inappropriate rating plug and electronic trip unit combination.

[c9]

9. The electronic trip unit of claim 8 wherein said display includes an LED said signal is indicated on said LED.

Mari [c10]

10. The electronic trip unit of claim 9 wherein said signal causes said LED to blink indicative of an inappropriate rating plug and electronic trip unit combination.

[c11]

11. The electronic trip unit of claim 5 wherein said signal is transmitted on a LAN to a host controller, said signal generates an error code to said host controller.

型 页 [c12]

12. The electronic trip unit of claim 1 wherein said rating plug includes a label indicating a current rating of said rating plug.

₩ ∰ [c13]

13.A circuit breaker comprising:

an electrical contact;

an operating mechanism arranged to separate electrical contacts;

a trip actuator in mechanical communication with said operating mechanism; an electronic trip unit in operable communication with said trip actuator; wherein said electronic trip unit including:

a microprocessor, said/microprocessor programmed to determine an overcurrent condition of said circuit breaker;

a nonvolatile memory in operable communication with said microprocessor; a rating plug releasably engaged with said microprocessor, said rating plug includes an identification register;

wherein said microprocessor reads said identification register, said identification register including an identification number;

wherein said microprocessor accesses one of a plurality of programs in said nonvolatile memory based on said identification number; and wherein said one of a plurality of programs instructs said microprocessor to perform a validation of said rating plug for operation with said microprocessor.

[c14]

14. The circuit breaker of claim 13 wherein said validation includes an error

[c15]

[c16]

[c17]

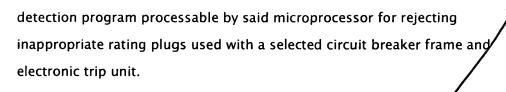
[c18]

[c19]

[c20]

[c21]

[c22]



- 15.The circuit breaker of claim 13 wherein said microprocessor performs said validation when said microprocessor is powered up.
 - 16. The circuit breaker of claim 13 wherein said rating plug includes a display, said display is indicative of said validation.
 - 17. The circuit breaker of claim 13 wherein said validation causes said microprocessor to generate a signal indicative of an improper rating plug and electronic trip unit combination.
 - 18. The circuit breaker of claim 17 wherein said signal causes the circuit breaker to trip.
 - 19. The circuit breaker of claim 17 wherein said signal causes the microprocessor to trip at a first setting, said first setting includes a low current flow setting.
 - 20. The circuit breaker of claim 17 wherein said signal is indicated on a display indicative of an inappropriate rating plug and electronic trip unit combination.
 - 21.The circuit breaker of claim 20 wherein said display includes an LED, said signal is indicated on said LED.
 - 22. The circuit breaker of claim 21 wherein said signal causes said LED to blink indicative of an inappropriate rating plug and electronic trip unit combination.
- [c23] 23.The circuit breaker of claim 17 wherein said signal is transmitted on a LAN to a host controller, said signal generates an error code to said host controller.
- [c24] 24. The circuit breaker of claim 13 wherein said rating plug includes a label indicating a current rating of said rating plug.
- [c25] 25.A method of rejecting an inappropriate rating plug for use with an electronic trip unit, said method comprising:

starting a microprocessor, said microprocessor programmed to determine an overcurrent condition of said circuit breaker; identifying a rating plug releasably engaged with the electronic trip unit and in operable communication with microprocessor; determining a program associated with said rating plug; and executing said program, said program performs a validation of said rating plug.

) [c26

26.The method of claim 25 wherein said identifying a rating/plug further comprises reading a number stored in an identification register at said rating plug.

[c27]

27. The method of claim 26 wherein said determining a program further comprises comparing said number with a plurality of numbers at a look-up table.

口 可 可 可 [c28]

28. The method of claim 25 wherein said determining a program further comprises retrieving said program from a nonvolatile memory.

: [c29] |► |-|-|-|-

29. The method of claim 25 wherein said validation further comprises a notification from said microprocessor to a host controller upon rejection of an inappropriate rating plug.

] ≟ [c30]

30.An electronic trip unit for a circuit breaker comprising:
a microprocessor, said microprocessor programmed to determine an overcurrent condition of the circuit breaker;
a rating plug releasably engaged with said microprocessor; and wherein said microprocessor includes:
means for identifying said rating plug,
means for determining a program associated with said rating plug, and
means for executing said program, said program performs a validation of said rating plug.

[c31]

3).The electronic trip unit of claim 30 wherein said rating plug includes a display.

[c32]

32. The electronic trip unit of claim 30 wherein said display is indicative of said



validation of said rating plug.

33. The electronic trip unit of claim 30 wherein said validation generates a signal indicative of an inappropriate rating plug and electronic trip unit combination.

34. The trip unit of claim 33 wherein said signal result in a safe mode operation of the circuit breaker.

APP_ID=09682997